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THE FLORA OF PENIKESE ISLAND.

BY PROF. D. S. JORDAN.



I GIVE here a list of the plants found on the Island of Penikese, and in the waters of Buzzard's Bay in the neighborhood of the island, during the late session of the Anderson School of Natural History. This list is probably complete in the flowering plants and measurably so as regards the higher algæ. The lichens, fungi, diatoms, etc., I have not tried to identify and they are therefore omitted.

The island as it now appears is absolutely treeless and nearly shrubless, and it is scantily covered with pasture grasses which furnish subsistence to flocks of sheep. Altogether it is about as barren looking a pile of rock and stone as one could well imagine.

When Penikese was first known it was covered with a growth of trees said to be similar to those now found on Martha's Vineyard and Naushon. Among these may be mentioned the red cedar, pitch pine, red maple, shag bark, shad, poplar birch, hornbeam and two or three species of sumach. Of this growth there is now no trace left save the rotten roots of a solitary beech stump and a few branches of red cedar and red maple (?) found buried in the muck of a small swamp.

This list may have a special interest to future students at Penikese and also a general interest to botanists, as showing which plants survive a prolonged struggle for existence against

grass and sheep. There are no flowering plants on the island that are at all rare, but some species very common on the mainland are conspicuously absent, for instance the asters and golden rods.

The flora of Gull, a very small island just separated from Penikese, is included. Several plants, as *Lathyrus maritimus* and *Solidago sempervirens*, are found there which are not in the flora of the main island. Probably they once grew there but have become exterminated. Such plants are marked with a star(*).

RANUNCULACEÆ.

Ranunculus cymbalaria Pursh.

GERANIACEÆ.

Oxalis stricta L.

CRUCIFERÆ.

Capsella Bursa-pastoris Mönch.

Sisymbrium officinale Scop.

Lepidium Virginicum L.

Brassica nigra Gray.

Brassica sinapistrum Boiss.

Cakile Americana Nutt.

Raphanus Raphanistrum L.

ANACARDIACEÆ.

Rhus toxicodendron L.*

LEGUMINOSÆ.

Trifolium repens L.

Trifolium procumbens L.

Trifolium arvense L.

Lathyrus maritimus Big.*

VIOLACEÆ.

Viola sagittata Ait.

ROSACEÆ.

Potentilla argentea L.

Fragaria Virginiana Ehrh.

Fragaria vesca L.

Rubus villosus Ait.

HYPERICACEÆ.

Hypericum mutilum L.

CARYOPHYLLACEÆ.

Cerastium viscosum L.

Stellaria media Smith.

Arenaria peploides L.

Spergularia salina Presl.

Spergula arvensis L.

Sagina procumbens L.

Mollugo verticillata L.

HALORAGACEÆ.

Myriophyllum scabratum Mx.

ONAGRACEÆ.

Ludwigia palustris Ell.

PORTULACACEÆ.

Portulaca oleracea L.

UMBELLIFERÆ.

Archangelica Gmelini DC.*

MALVACEÆ.

Malva rotundifolia L.

COMPOSITÆ.

Erigeron Canadense L.

Solidago sempervirens L.*

Iva frutescens L.
Ambrosia artemisiæfolia L.
Achillaea millefolium L.
Maruta cotula DC.
Leucanthemum vulgare Lam.
Gnaphalium uliginosum L.
Erechthites hieracifolia Raf.
Xanthium strumarium L.
Cirsium arvense Scop.
Cirsium lanceolatum Scop.
Taraxacum Dens-Leonis Desf.

PRIMULACEÆ.

Anagallis arvensis L.

PLUMBAGINACEÆ.

Statice Limonium L.*

PLANTAGINACEÆ.

Plantago major L.
Plantago lanceolata L.

SCROPHULARIACEÆ.

Linaria Canadense Spr.
Verbascum Thapsus L.

LABIATÆ.

Teucrium Canadense L.
Lycopus Europæus L.
Nepeta Cataria L.
Scutellaria galericulata L.
Leonurus cardiaca L.

CONVOLVULACEÆ.

Calystegia sepium R. Br.

SOLANACEÆ.

Solanum nigrum L.
Datura Tatula L.

ASCLEPIADACEÆ.

Asclepias incarnata var. *pulchra* L.

POLYGONACEÆ.

Polygonum Hydropiper L.
Polygonum Persicaria L.
Polygonum aviculare L.
Polygonum maritimum L.
Rumex obtusifolius L.
Rumex crispus L.
Rumex acetosella L.

CHENOPODIACEÆ.

Chenopodium album L.
Suaeda maritima Dumort.
Salsola kali L.
Salicornia herbacea L.
Atriplex patula L.
Atriplex arenaria Nutt.

AMARANTACEÆ.

Amarantus retroflexus L.

EUPHORBIACEÆ.

Euphorbia maculata L.
Euphorbia polygonifolia L.

SALICACEÆ.

Salix discolor Muhl.

BETULACEÆ.

Betula alba var. *populifolia* Spach.

NAIADACEÆ.

Zostera marina L.
Ruppia maritima L.

IRIDACEÆ.

Iris versicolor L.
Sisyrinchium Bermudiana L.

JUNCACEÆ.

Juncus Gerardi Loisel.
Juncus pelocarpus Meyer.

Juncus tenuis Willd.

CYPERACEÆ.

Cyperus filiculmis Vahl.
Eleocharis palustris R.Br.
Eleocharis acicularis R.Br.
Scirpus pungens Vahl.
Scirpus maritimus L.
Carex scoparia Schk.
Carex straminea Schk.

GRAMINEÆ.

Agrostis alba L.
Agrostis vulgaris With.
Phleum pratense L.
Setaria viridis Beauv.
Setaria glauca Beauv.
Anthoxanthum odoratum L.
Festuca ovina L.
Festuca elatior L.
Poa annua L.
Poa pratensis L.
Poa serotina Ehrh.
Glyceria maritima Wahl.
Spartina juncea Willd.
Spartina stricta Roth.
Calamagrostis arenaria Roth.
Triticum repens L.
Holcus lanatus L.
Panicum sanguinale L.
Panicum dichotomum L.
Panicum crus-Galli L.
Elymus Virginicus L.*

FILICES.

Dicksonia punctilobula Kunze.

MUSCI.

Polytrichum commune.
Ornithotrichum (undetermined).
 Undetermined.

MELANOSPERMEÆ (Olive-green Algæ).

Sargassum vulgare Agardh.
Sargassum Montaguei Bailey.
Fucus nodosus L.
Fucus vesiculosus L.
Desmarestia viridis Lam.

Laminaria saccharina Lam.
Laminaria digitata Lam.
Laminaria ascia Ag.
Laminaria longicornis Pylaie.
Dictyosiphon feniculaceus Grev.
Punctaria tenuissima Grev.
Asperococcus echinatus Grev.
Chordaria flagelliformis Ag.
Chordaria divaricata Ag.
Lathesia tuberiformis Gray.
Elachista fucicola Fries.
Sphacelaria cirrhosa Ag.
Ectocarpus littoralis Lyngbye.
Ectocarpus siliculosus Lyngb.

RHODOSPERMEÆ (Red Algæ).

Rhodomela subfusca Ag.
Polysiphonia formosa Sahr.
Polysiphonia subtilissima Mont.
Polysiphonia Olneyi Harv.
Polysiphonia Harveyi.
Polysiphonia elongata Grev.
Polysiphonia violacea Grev.
Polysiphonia variegata Ag.
Polysiphonia nigrescens Grev.
Polysiphonia affinis.
Polysiphonia fastigiata Grev.
Dasya elegans Ag.
Champia parvula Harvey.
Corallina officinalis L.
Nullipora polyphyllamea ?
Grinnellia Americana Harv.
Delesseria sinuosa Lam.
Gelidium corneum Lam.
Polyides rotundus Græv.
Rhodomenia palmata Grev.
Furcellaria fastigiata ?
Phyllophora Brodiaei Ag.
Ahnfeltia plicata Fries.
Cystoclonium purpurascens Kützting.
Chondrus crispus Lyngb.
Spyridia filamentosa Harv.
 var. *refracta* Harv.
Ceramium rubrum Ag.
Ceramium diaphanum Roth.
Ceramium fastigiatum Harv.
Ceramium arachnoideum Ag.
Ptilota elegans Bonnemaison.
Griffithsia corallina Ag.
Callithamnion Baileyi Harv.
Callithamnion Borreri Ag.
Callithamnion byssodeum Arn.
Callithamnion corymbosum Ag.
Callithamnion scirosperrum Griff.
Callithamnion plumula Lyngb. (rare).
Callithamnion Americanum Harv.

<i>Callithamnion Turneri</i> Ag.	<i>Ulva latissima</i> L.
<i>Callithamnion Daviesii</i> Ag.	<i>Cladophora arcta</i> Dillw.
<i>Callithamnion luxurians</i> Ag.	<i>Cladophora lanosa</i> Roth.
	<i>Cladophora glaucescens</i> Griff.
	<i>Cladophora flexuosa</i> Griff.
CHLOROSPERMÆ (Grass-green Algæ).	<i>Cladophora albida</i> Huds.
	<i>Cladophora gracilis</i> Griff.
<i>Bryopsis plumosa</i> Lam.	<i>Cladophora fracta</i> Fl. Danica.
<i>Vaucheria</i> (species not described by Harvey, allied to <i>V. Murina</i>).	<i>Chætomorpha melagonium</i> Web. and Michx.
<i>Porphyra vulgaris</i> Ag.	<i>Chætomorpha ærea</i> Dillw.
<i>Bangia fuscopurpurea</i> Lyngb.	<i>Chætomorpha Olneyi</i> Harvey.
<i>Enteromorpha intestinalis</i> Linb.	<i>Hormotrichum Younganum</i> Dillw.
<i>Enteromorpha Hopkirkii</i> M'Calla.	<i>Calothrix confervicola</i> . —
<i>Enteromorpha compressa</i> Grev.	<i>Calothrix scopulorum</i> . —
<i>Enteromorpha clathrata</i> Grev.	

ON LOCAL VARIATIONS IN THE NOTES AND NESTING HABITS OF BIRDS.

BY ROBERT RIDGWAY.

MR. ALLEN has called attention to the variation in the notes of different birds at remote localities; and in this I am able to corroborate him, though I think that cases of such variation are very rare, and do not occur in more than perhaps five per cent. of the species. I have only detected it in two or three species after the most careful observation, and in very many cases noticed that there was not, in the minutest particular, any difference between individuals of one species on opposite sides of the continent. Such is undoubtedly the case in a very great majority of the species, any seeming variation that may be observed being more probably the peculiarity of an individual rather than the manifestation of any regional impress. The only instances wherein I have yet been able to satisfy myself of a difference in notes in two regions are the following; *Cardinalis Virginianus* has a far finer song in southern Illinois than it has in Maryland, the notes being not only clearer and more musical, but the song more continued and energetic; the effect being altogether richer. In the vicinity of Washington, D. C., I have never heard, in a single instance, the Baltimore oriole (*Icterus Baltimore*) utter such mellow, flute-like notes, as it habitually does in southern Illinois. The